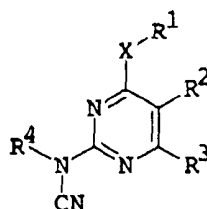


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Claims:

1. Pyrimidines of formula I



I

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in which

R¹ represents hydrogen or

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C₁-C₁₀-alkyl, C₁-C₁₀-haloalkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₄-C₈-alkadienyl, C₁-C₁₀-alkoxy, C₃-C₈-cycloalkyl, phenyl, or

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5- or 6-membered heteroaryl or 5- or 6-membered heterocyclyl, containing one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom, or

tri-C₁-C₆-alkyl-silyl, formyl or C₁-C₁₀-alkoxycarbonyl;

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wherein R¹ groups are unsubstituted or substituted by one to three groups R^a

R^a halogen, nitro, cyano, hydroxy or

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C₁-C₁₀-alkyl, C₃-C₆-cycloalkyl, C₃-C₆-cycloalkenyl, C₁-C₁₀-haloalkyl, C₃-C₆-halocycloalkyl, C₁-C₁₀-alkoxy, C₁-C₁₀-haloalkoxy, C₁-C₆-alkoxycarbonyl, tri-C₁-C₄-alkylsilyl, phenyl, halo- or dihalo-phenyl or 5- or 6-membered heteroaryl, containing one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom;

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R² represents phenyl, C₃-C₆-cycloalkyl or 5- or 6-membered heteroaryl, containing one to four nitrogen atoms or one to three nitrogen atoms and one sulfur or oxygen atom, which are unsubstituted or substituted by one to three groups R^a;

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R³ represents hydrogen, halogen or

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C₁-C₁₀-alkyl, C₁-C₁₀-alkoxy, C₁-C₁₀-alkylthio, C₁-C₁₀-alkylamino or di-C₁-C₁₀-alkylamino; which are unsubstituted or substituted by one to three groups R^a;

5 R⁴ represents hydrogen or

C₁-C₁₀-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl; which are unsubstituted or substituted by one to three groups R^a; and

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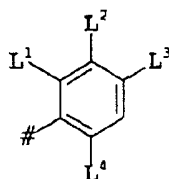
X represents O, S, NR⁵ or a single bond, wherein R⁵ represents hydrogen or C₁-C₁₀-alkyl; or

R¹ and R⁵ together with the interjacent nitrogen atom form a heterocyclic ring.

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2. Pyrimidines of formula I according to claim 1, in which R² represents a phenyl group of formula

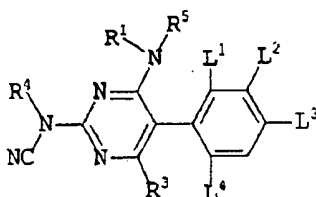
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25 wherein L¹ through L⁴ each independently represent hydrogen, fluorine, chlorine or methoxy.

3. Pyrimidines of formula IA

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IA

35 in which R¹ to R⁵ have the meaning given in claim 1, and L¹ through L⁴ are as defined in claim 2.

4. Pyrimidines according to claim 1 to 3 in which R³ represents chlorine.

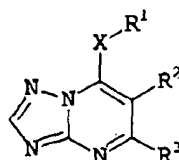
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5. Pyrimidines according to claims 1 to 4 in which R⁴ represents hydrogen, C₁-C₆-alkyl or benzyl.

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6. A process for the preparation of pyrimidines of formula I according to claim 1 wherein R^4 is optionally substituted alkyl, alkenyl or alkynyl by treating compounds of the formula II



II

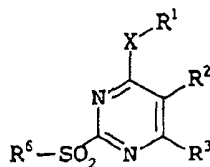
in which R^1 through R^3 and X are as defined in formula I; with a base and an alkylation agent of formula III



III

in which R^4 is C_1 - C_6 -alkyl, C_1 - C_6 -alkenyl or C_1 - C_6 -alkynyl; which are unsubstituted or substituted by one to three groups R^a , and Y represents halogen atom.

7. A process for the preparation of pyrimidines of formula I according to claim 1 wherein R^4 is C_1 - C_6 -alkyl, C_1 - C_6 -alkenyl or C_1 - C_6 -alkynyl which are unsubstituted or substituted by one to three groups R^a by reacting sulfones of formula VI



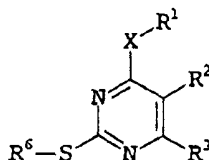
VI

in which R^1 through R^3 and X are as defined in formula I and R^6 is C_1 - C_6 -alkyl or C_1 - C_6 -haloalkyl; with alkylated cyanamides of formula VII



VII

in which R^4 is C_1 - C_6 -alkyl, C_1 - C_6 -alkenyl or C_1 - C_6 -alkynyl which are unsubstituted or substituted by one to three groups R^a ; wherein sulfones of formula VI are obtained by reacting 2-thiopyrimidine derivatives of formula VIII



VIII

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in which the variables are as defined in formula VI; with oxidizing agents.

8. Compounds of formulae VI and VIII as defined in claim 7.

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9. A fungicidal composition which comprises a carrier and an effective amount of at least one compound of formula I as defined in claim 1.

10 10. A method of combating fungus at a locus which comprises treating the locus with an effective amount of at least one compound of formula I as defined in claim 1.

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